



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/768,940	01/30/2004	Kei Arao	51890	7175
7590 12/27/2005				
EDWARDS & ANGELL, LLP		EXAMINER		
P.O. Box 55874		WALKE, AMANDA C		
Boston, MA 02205				
		ART UNIT		PAPER NUMBER
		1752		
DATE MAILED: 12/27/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/768,940

Applicant(s)

ARAO ET AL.

Examiner

Amanda C. Walke

Art Unit

1752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, and 3-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kiuchi et al (EP 1142923) in view of Smith et al (4,231,951) or Kundsén et al (5,262,280).

Kiuchi et al disclose a flame-retardant epoxy resin composition, and a semiconductor device made therefrom. The composition is prepared from an epoxy resin and 2 phenolic resins are demonstrated in Comp. Ex. 10 (page 23). Phenolic resin 2 employed in that composition is a:phenol-biphenylaralkyl. The Kiuchi et al reference

Smith et al disclose a photoinitiator that is taught to be useful in (photo) curable epoxy resins.

Knudsen et al disclose a curable composition comprising a photoinitiator and an epoxy resin.

Given the teachings of the references, it would have been obvious to one of ordinary skill in the art to prepare the material of Kiuchi et al choosing to employ a photoinitiator to aid in the polymerization and curing of the resin layer as taught to be conventional by either Smith et al or Knudsen et al in the place of the curing agent.

Art Unit: 1752

3. Claims 1 and 3-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kiuchi et al (6,730,402 or 2003/0152776) in view of Smith et al (4,231,951) or Kundsens et al (5,262,280).

Kiuchi et al disclose a flame-retardant epoxy resin composition, and a semiconductor device made therefrom. The composition is prepared from an epoxy resin and a phenol-biphenylaralkyl. The resin also comprises an alkoxylated melamine.

Smith et al and Knudsen et al have been discussed above.

Given the teachings of the references, it would have been obvious to one of ordinary skill in the art to prepare the material of Kiuchi et al choosing to employ a photoinitiator to aid in the polymerization and curing of the polymers layer as taught to be conventional by either Smith et al or Knudsen et al in the place of the curing agent.

Furthermore, it is the position of the examiner that the resin prepared from the teachings of the references that is employed in a semiconductor device manufacturing method would comprise the same components as the instantly claimed resist, and thus is a negative resist layer.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Cited as being similar materials to those instantly claimed are: Knudsen et al (5, 366, 846), Lamanna et al (5,514,728), Tzou (5,858,618), and Janke et al (5,877,229).

Art Unit: 1752

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amanda C. Walke whose telephone number is 571-272-1337. The examiner can normally be reached on M-R 5:30-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1752

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Amanda C Walke
Examiner
Art Unit 1752

ACW
December 22, 2005